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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/897,644	06/29/2001	Robert Pittman	1532.34b	9793

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EXAMINER

PASCHALL, MARK H

ART UNIT PAPER NUMBER

3742

DATE MAILED: 04/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/897,644

Applicant(s)

PITTMAN ET AL.

Examiner

Mark H Paschall

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-111 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-111 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/2 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date July 01, 2003.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_.

## DETAILED ACTION

!) The drawings filed 06/01 are acceptable.

### *Specification*

2) The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### **3) *Claim Rejections - 35 USC § 102***

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1,3,9,10,14,16,17,20,22-24,26-29,34,35, 37-39,41,47,49,56,59-60,68,71,73,74,76,78,80,81,83,90,92-94,96-99,103,104 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Gb 233'. Gb 233' teaches a shower water heater having thick film resistors layered on a stainless steel welded chamber, on the exterior. Two temperature sensors 23 and 25 are used to control temperature and also to indicate high or dry fire temperature. When used as a high limit sensing, the system is automatically started when the temperature reduces to a safe level. See claim 3. The thick film resistors are bonded to the steel by heating the steel to create a Cr oxide layer, which is covered by a dielectric layer, as claimed. A microprocessor controller Ic1 processes the sensed signals and controls operation of the water heater. Conductive layer 19 comprises terminal connection means to a power supply as claimed.

### ***Claim Rejections - 35 USC § 103***

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2,40,77 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gb 233' as set forth in paragraph 3 above, in view of Khadkikasr et al. Gb 233' teaches the claimed subject matter including high temperature limit disconnection means . See page 8-second paragraph. These means are automatically reset whereas the claims call for manual reset . manual reset is conventional as set forth in Khadkikaret al, which teaches a water heater having hi limit protection with manual, reset means. See column 11 lines 46-53. Such means give further safety to the user and in view of this teaching it would have been obvious to modify Gb 233 with manual reset , to afford greater safety to the user.

Claims 4,5,7,8,42-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gb 233' in view of Tompkins et al. Gb 233' teaches the claimed controller except for showing use of rate of change of temperature to control the heaters and except for showing a control panel to set the controls. Tompkins et al are applied for teaching a spa controller having multiple temperature sensors and using the rate of change of temperature sensed, to control the system. Fluid blockage in the system is then sensed and overheating is prevented. In view of this teaching it would have been obvious to modify Gb 233' to also use the rate of temperature change sensed from the sensors to control the system, such modification providing further system protection by sensing line blockage( high rate of change of temperature). As per claim 8 though not specifically teaching a control panel to set the controls, control panels are very conventional, as set forth in Tompkins and the artisan would find it obvious and routine to set the controls in Gb 233 in a control panel to enhance user access.

15 f  
Claim 6 rejected under 35 U.S.C. 103(a) as being unpatentable over Gb 233 as modified by Tompkins above, further in view of Khadkikar et al. In view of khadkikar set forth above, it would have been obvious to further modify the Gb system to include manual reset, to further enhance to protection for the user.

claims 15,48,82are rejected under 35 USC (103) as being unpatentable over Gb in view of La Combe. The claims call for use of a non-conductive housing in lieu of the

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steel housing to hold the water. The patent to La Combe is applied for teaching that it is conventional to use a non-conductive housing with the benefit attained of longer life for the components. In view of this teaching it would have been obvious to modify the "Gb 233' system to use a non conductive housing, to prolong the system components, if desired.

Claim 36 and 70 are rejected under 35 USC (103) as being unpatentable over Gb 233 in view of Fernandez. As set forth in Fernandez it is conventional to have one of the temperature sensors in a water heating system contained within the chamber, to effect a more accurate control and in view of this teaching it would have been obvious to modify Gb 233 to include the same to effect a more accurate temperature sensing of the water and hence a more accurate control.

Claims 11-13, 18, 19, 21, 25, 30-32, 50-55, 57, 61, 66, 67, 72, 75, 84-89, 91, 95, 100-102, 105-111 are rejected under 35 USC (103) as being unpatentable over Gb 233. The claims call for conventional design elements in the controller such as encapsulating the heaters in glass insulation, electro static spraying of the layers, particular operating wattage for the heaters, and use of percussion weld to weld the terminal to the device. Gb 233' teaches encapsulating with insulators other than glass, slightly different wattages for the heater elements, weld different than a percussion and silk screening, not electrostatic spraying of the materials. The artisan would have found it obvious to use these design parameters in lieu of those taught in Gb 233, since all are conventional

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and would be chosen accordance with the end use of the device and the temperatures and conditions operated under.

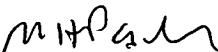
### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brown et al, Demaline and Quirk are cited for disclosing pertinent heating control systems for water heaters.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark H Paschall whose telephone number is 703 308-1642. The examiner can normally be reached on 7am - 3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 703 308-2634. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Mark H Paschall